

Serial No. 10/501,723
Atty. Doc. No. 2001P21301WOUS

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

WHAT IS CLAIMED IS:

1-11. (canceled)

12. (currently amended) A gas turbine blade for a fourth stage and onward of a multi-stage turbine, the blade comprising:

a metallic root portion;

a platform portion; and

an airfoil portion, wherein

the root, platform and airfoil are collectively comprised of a plurality of materials

In which at least 40% by volume of the materials have a density of at most 4 g/cm³,

wherein the density by volume provided by the plurality of materials allows providing a length of at least 50 cm for a blade disposed in the fourth stage and onward of the multi-stage turbine.

13. (previously presented) The turbine blade as claimed in claim 12, wherein the turbine blade is arranged in a metallic rotor disk.

14. (previously presented) The turbine blade as claimed in claim 12, wherein the turbine blade has a structural metallic core surrounded by a structural ceramic material.

15. (previously presented) The turbine blade as claimed in claim 14, wherein the metallic core is formed at least in part from a metallic foam.

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16. (previously presented) The turbine blade as claimed in claim 12, wherein the ceramic material has a non structural ceramic protective layer arranged over the ceramic material.

17. (cancelled).

18. (previously presented) The turbine blade as claimed in claim 17, wherein the length of the turbine blade is at least 65 cm.

19. (previously presented) The turbine blade as claimed in claim 12, wherein the turbine blade has a metallic skeleton material that functions as a structural frame and is adapted to support a structural ceramic material.

20. (previously presented) The turbine blade as claimed in claim 12, wherein the materials are a ceramic material or a glass material.

21. (previously presented) The turbine blade as claimed in claim 12, wherein the material with the density of at most 4 g/cm^3 is a carbon-containing material.

22. (cancelled)

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23. (currently amended) A turbine blade for a fourth stage and onward of a multi-stage turbine, the blade comprising:

a root portion connected to a rotor disk;

a tip portion having a first section located adjacent to the root portion, wherein the first section comprises a material having a first density, and the tip portion having a second section located adjacent to the first section consisting exclusively of a ceramic material having a second density different than the first density and extending at least 80% of the length of the tip portion, wherein at least 40% by volume of the first and second sections have a density of at most 4 g/cm³, wherein the density by volume achieved over the first and second sections of the tip portion allows providing a length of at least 50 cm for a blade disposed in the fourth stage and onward of the multi-stage turbine.

24. (currently amended) A gas turbine blade for a fourth stage and onward of a multi-stage turbine, the blade comprised of at least one material in which at least 40% by volume of the material has a density of at most 4 g/cm³, wherein the density by volume achieved by the at least one material allows providing a length of at least 50 cm for a blade disposed in the fourth stage and onward of the multi-stage turbine.

25. (previously presented) The turbine blade as claimed in claim 24, wherein the turbine blade has a metallic skeleton into which ceramic parts are introduced.

26. (previously presented) The turbine blade as claimed in claim 24, wherein the material with the density of at most 4 g/cm³ is a ceramic material or a glass material.

27. (previously presented) The turbine blade as claimed in claim 24, wherein the material with the density of at most 4 g/cm³ is a carbon-containing material.

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28. (previously presented) The turbine blade as claimed in claim 24, wherein the turbine blade has a metallic core surrounded by a ceramic material, the metallic core and ceramic material both adapted to provide structural support.

29. (previously presented) The turbine blade as claimed in claim 28, wherein the metallic core is formed at least in part from a metallic foam.

30. (previously presented) The turbine blade as claimed in claim 24, wherein the ceramic material has a protective layer.